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ABSTRACT

Growing out of the need for better instruction for classroom teachers in the use of educational software, the Teachers Software Institute (TSI) was designed to provide intensive software training to teachers who could serve as mentors in the use of computer technology and specific software. The paper examines the background of the program and the role of professional development models in the design of TSI. Forty-three teachers enrolled in the 1995 TSI three-day workshops focusing on "KidPix2", "HyperStudio", and "Claris Works 4.0." The format and content of the TSI workshops were successful. Teachers' need for comfortable, intensive training was combined with practical uses for their products. Site visit evaluations showed that the teachers were sharing their new or increased skills with other teachers and their students by giving workshops and implementing the software into their curriculum. There was a high level of participation by the teachers in the workshops, and nearly all teachers indicated that they had learned more than they had anticipated. The 1996 TSI focused on different software applications: HyperStudio 3.0, Inspiration 4.0, and Student Writing Center. Differences between the 1995 and 1996 TSIs are examined, as well as plans for 1997 TSI. (Contains 20 references.) (ND)

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Training Technology Mentors: A Model for Professional Development

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Growing out of the need for more and better means of instructing classroom teachers in the use of current educational software, the Teachers' *Software Institute* (TSI) was designed to provide intensive software training to Central Ohio teachers who could further serve, at the building level, as mentors in the use of computer technology and specific software. Some of the innovative features of TSI are the inclusion of visual design training as a workshop topic, the dissemination of participants' projects via America OnLine, distribution of the software to the participants, use of an instructional design professional to help evaluate and revise teachers' projects, child care reimbursement, and follow-up visits.

Background

We are constantly seeing, and hearing about, the need for training in the thoughtful and practical use of computer software in the schools. Participants of workshops, regardless of the content, consistently ask for more computer training. All too often, student teachers participate in field experiences with teachers who do not know how to use the technology in their classrooms and would like to know how. Discussions with technology personnel from local school districts continually center upon the massive task of training teachers to implement computing in their instruction and management.

The introduction and access to exciting technology has forced educators to look at delivery of education differently. Many teachers are seeing the possibilities and are wanting to learn more. In the Columbus, Ohio area, the larger problem is no longer the lack of technology; many teachers now have access to new technology. The problem is teachers' lack of training on how to use the technology. Teachers are increasingly ready to learn how to use this equipment, yet many do not have ready access to training in a relaxed, non-threatening environment.

Adoption of technology has been shown to be highly dependent upon access, training, and mentoring. Geoghegan (1995) states that a major barrier to adoption of instructional technology by the mainstream is actually more of an "aversion to risk" than to an aversion to technology. Providing a supportive, safe structure for technology practice is important for technology adoption.

The Role of Professional Development Models in the Design of TSI

When teachers think of professional development, they aren't always thinking good thoughts. A plethora of research (Dillon-Peterson 1986; Sagor 1995; Sergiovanni & Starratt 1993; Showers, Joyce, & Bennett 1987; Sparks, D., & Loucks-Horsley 1989) tells us that professional development has a reputation for lacking relevancy, being passive rather than engaging, and occurring at the end of the school day when teachers are exhausted. Even if the money is available to hire substitutes, teachers are reluctant to leave their responsibilities in the classroom. Professional development programs are often designed by others with little understanding of what teachers want and need. Even if new skills are learned, teachers have no follow-up or help from the professional developers to be certain the skill is transferred to the classroom.

This bleak picture does not mean that good professional development activities do not exist. Professional development can be meaningful, but the design and implementation of the activities are critical. Loucks-Horsley and colleagues (as cited in Glickman, Gordon, & Ross-Gordon 1995) synthesized a set of characteristics of successful staff development programs commonly reported in the literature. These characteristics included:

- Collegiality and collaboration
- Experimentation and risk taking
- Incorporation of available knowledge bases
- Appropriate participant involvement in goal setting, implementation, evaluation, and decision making
- Time to work on staff development and assimilate new learning
- Leadership and sustained administrative support

- Appropriate incentives and rewards
- Designs built on principles of adult learning and the change process
- Integration of individual goals with school and district goals
- Formal placement of the program within the philosophy and organizational structure of the school and district. (337)

The design of The *Teachers' Software Institute* reflects several emerging trends in teacher inservicing as cited by Abdal-Haqq (1989). The model for inservicing has shifted from a deficit model, emphasizing remediation, to that of a developmental model, emphasizing professional growth. Other trends modeled by TSI include programs that prepare teachers to become inquiring, reflective practitioners and programs that promote collegiality. In addition, TSI modeled practices cited by Joyce and Showers (1988) and Mohlman-Sparks (1986) as the most effective model for skill development: presentation, demonstration, practice, and feedback followed by peer observation.

Implementation

The 1995 TSI consisted of a series of training courses that included four (three for 1996) three-day workshops, each featuring a software application taught on Macintosh computers. Fifteen teachers participated in each workshop. Due to lack of space, another ten to fifteen teachers per workshop had to be turned down. Teachers were given three options for enrollment: 1 graduate quarter hour (Internet upload of template required), 1 hr. CEU, or general professional development. Childcare reimbursement was provided on a limited basis, lunches were included, and software and supporting materials were distributed. The sessions were 9 am to 2 pm on the first and second days. The third day ended at noon.

Funding from the Martha Holden Jennings Foundation provided for all the costs of the workshops: instructors' salaries, software, lunches, materials, CEU fees, and child care reimbursement. Because college costs were subsidized, participants who wanted graduate credit paid a reduced tuition of $85/quarter hour.

Software selection was based upon a needs assessment of what software teachers and technology coordinators had and/or wanted. There were two workshops on *KidPix2*, one on *HyperStudio*, and one on *ClarisWorks 4.0*. Participants learned to use the software and then produced a template or product incorporating the use of the software for their classrooms. (Figure 1) Basics of instructional and visual design were taught to the teachers in order to help them produce professional looking products. Storyboarding was introduced as a planning strategy for both the teachers and the students. To increase the curricular strength of their lesson plans, the teachers also received instruction on the pedagogical considerations of integrating computers in teaching, a facet of computer training that is missing from many software workshops.

The basis for the demonstration and discussion of visual design principles was *The Non-Designer's Design Book* (Williams 1994). Williams presents four basic principles of visual design: proximity, alignment, repetition, and contrast. Examples and non-examples of good design were presented in context of the software the teachers would be using. In order to promote visual literacy as content and awareness, the teachers were also encouraged to teach their students these four principles for the students' own products. The instructional designer/evaluator reinforced these principles when he coached the teachers on their projects on the final day.

Day 1	Learning the Software; uses in the classroom
Day 2	Developing templates; principles of visual and instructional design; storyboarding
Day 3	Complete templates; self & peer evaluation of projects
Follow-up	Upload templates to AOL; visit participants' schools

Figure 1. Format of the *Teachers' Software Institute* Workshops

Results of the Workshops

Forty-three teachers enrolled in the 1995 TSI; fifteen of those teachers enrolled in multiple workshops. Eight different school districts were represented as well as several private schools. Thirty-three teachers chose the graduate credit option. Five of the participants requested child care during the workshop and were reimbursed at an average of $60 each.

Were the workshops successful? The teachers *begged* us to have more of these workshops the next summer. They appreciated the concentrated time to learn the software as well as being able to leave with a product they could use during the school year. They also want to learn more. Sample comments from the evaluation sheets include: " I see so many possibilities for my classroom (*Kid Pix2* participant). "I can't wait to share all the new methods I learned this week!" (*ClarisWorks* participant). "I feel more confident now and will be more willing to instruct others" (*HyperStudio* participant).

Projects included templates for science experiments, presentations for Open Houses, instructional sequences, and communications for parents and students. A stack of sample *HyperStudio* cards created by the participants was uploaded on America On-Line in the Roger Wagner Publishing Forum, and by October, 1995 over 180 downloads of that stack were tabulated. Over 100 of the TSI Kid Pix2 compositions have been downloaded from the Broderbund *Kid Pix* Trading Post (America On-Line).

Mentoring

Another goal of the 1995 training was that the TSI teachers should act as mentors to other teachers in their building. The TSI participants have responded to this challenge. One third grade teacher taught *Kid Pix 2* to her students and to the first grade teacher. The third and first graders worked together to create slide shows for reports using *Kid Pix 2*. The slide show was shown to parents during an open house. A high school physical education teacher designed a physical fitness data sheet on *ClarisWorks*. He taught other physical education teachers in the district how to use the data sheet.

Many of the other participants completed similar mentoring activities.

The high demand for TSI denotes the strong need and desire for training. The downloading of the teacher created documents from America On-Line suggests teachers beyond the boundaries of Otterbein College can learn from our trainees. The TSI teachers' response to the mentoring process signifies the transference of information from participant to other teachers in their district.

Evaluation

The content and the format of the workshop were evaluated by the participants as well as by an external evaluator (Simpkins 1995). Communications with the teachers continued through randomly selected site visits by the external evaluator and the project co-directors. The evaluation addressed the following questions:

- How will or how are the TSI applications being used as a result of the TSI?
- Are the TSI teachers providing technology mentoring in their building?

The site-visit evaluation showed that the teachers were sharing their new or increased skills with other teachers and their students. Teachers have been giving building level workshops, implemented the software into their curriculum, and used the software to generate Open House displays, for example. Teachers who did not follow up on software use had the following reasons: software wasn't available at their schools or the implementation of a new curriculum was taking up their time.

The external evaluator also looked at the conduct of the workshops and the quality of the products developed by the participants. The evaluator cited the high level of participation by the teachers as evidenced by their multitude of questions during instruction and by their early arrivals and late departures from the workshop sessions. Nearly all of the teachers indicated that they had learned as much or more than they had anticipated. A few of the more experienced computer users indicated that they would have like to have gone more deeply into the applications, but even they felt that they had still learned new skills or had polished previous skills. Many of the teachers said they intended to enroll in future workshops.

The motivation to complete projects was high among the participants. Many of the products were based on good ideas, but the teachers seemed to resist preplanning and wanted to immediately start construction of their projects. As a result, many of the teachers began their projects without the recommended storyboarding techniques that were taught. In addition, the teachers did not seem to be applying the visual design principles that were presented early in the workshops. The guidance of the evaluator/instructional designer on the last day of the workshop helped to reinforce and/or remind the participants of those design issues.

About 20% of the teachers elected to develop products that turned out to be either too advanced for their skills or were made more difficult by the limitations of the software. The misjudgment of skill or tool capability versus desired outcome is common among new users, and this group's actions reflected this phenomenon.

The evaluator had three recommendations for future workshops. First, try to separate the participants into workshops appropriate for different levels of skill. The new users, especially, need a great deal of introductory work to make them comfortable with the technology before they can get comfortable with the software. This is a perpetual problem with instruction - addressing the needs of a range of skill levels. Secondly, he recommended that the configuration of the room be changed from rows of tables to a horseshoe arrangement. The horseshoe arrangement allows easier access by the instructors to the participants, encourages more participant collaboration, and is more effective for instructor-led demonstrations or presentations with the overhead projector. Finally, the evaluator recommended a more persuasive presentation of design principles and storyboarding so that teachers could experience the benefits of preplanning.

Design of the 1996 Teachers' Software Institute

The 1996 Teachers' Software Institute consisted of a series of three three-day training courses, each featuring a different software application. From demonstrations and workshops, we determined the three applications most highly in demand were

HyperStudio 3.0; *Inspiration 4.0*; and *Student Writing Center*. Our belief was that these applications would serve the software training needs of a broad population of teachers from elementary through high school. *Inspiration 4.0* is not known by many teachers, but any exposure to this program has created intense interest.

Instead of three options, participants had one choice for the academic purpose of their participation in TSI. They earned one quarter hour graduate credit paid by the participants or by fee waiver. During the 1995 institute not many teachers elected either the CEU or the non-credit professional development option. Having only a graduate credit option also stabilized the content of the workshops and the goals of the participants.

Finally, the largest financial change in the 1996 TSI concerned the decision to provide the participants with the application software. Supporting software such as clip art and teacher templates were given to the teachers who participated in the 1995 *HyperStudio* and *ClarisWorks* workshops. Participants in the *KidPix2* workshops received the application software because of its low cost, and they were very excited to have their own copies. Many of the *KidPix2* teachers worked on their projects at home during the evenings of the workshops. During the follow-up interviews with the 1995 participants, the primary reason teachers were not incorporating the applications into their classrooms and/or were not mentoring was because they did not have the software. The application software was thus included in the 1996 budget. During the workshop we witnessed the benefits of providing teachers with the software. They took it home and worked with the applications between sessions. This greatly increased the learning curve!

During the follow-up interviews, we also found the benefits of providing teachers with the software. Because the application was available to them at the touch of a key, they were more likely to use the application and transfer this learning to others. The teachers pushed harder to have the applications installed at their school. A middle school purchased and installed the Student *Writing Center* for their sixteen Macintosh computers. The application is now being used every period of every day by classes or students working on individual projects. The teacher there who attended the TSI

credits the workshop for her being able to develop the skills to provide in-service training for other teachers who together work as mentors to teachers who have not had formal training. One high school media specialists from the 1996 workshop has taught *HyperStudio* to a team of teachers who are designing a Global Humanities course. This course integrates Art, English, and Social Studies. The teachers have created various stacks for the course and the art teacher has scanned in student art and other art examples. The group has created a home-page which was planned with a story board. An elementary teacher taught the *Student Writing Center* to the entire staff at her school and now students and teachers are designing and writing newsletters. She has also discussed this project at district meetings.

Modifications for the 1997 Teacher Software Institute

In January 1997, the third set of Teacher Software Institutes was funded for implementation during summer of 1997. Based on the evaluation data from the 1995 and 1996 workshops, slight modifications in the format and content were made to include: applications of special interest to high school teachers, workshop materials for participants to use in their own buildings, and inclusion of previous workshop participants as teaching assistants. There will also be four three-day training courses serving sixty elementary and secondary teachers. The *HyperStudio* workshop will be assisted by a teacher mentor who had participated in previous workshops. The four applications to be taught are *HyperStudio 3.0, Amazing Writing Machine, MicroGrade, and Netscape. MicroGrade* and *Netscape* will be taught on Windows and the other two on Macintosh.

Conclusions

The format and content of the *Teachers' Software Institute* workshops were successful. Teachers' needs for comfortable, intensive training were combined with practical uses for their products. In addition, the participants' sense of professional worth was increased by the inclusion of lunches, dissemination of software and child care, and prospects of mentoring. Reflecting on the first year, we realized that more emphasis needed to be placed on the planning of the project. Implementing this planning time the second summer not only increased the quality of the products, but it also made

efficient use of the technology. Time at the computer was then not spent on planning or reworks from lack of planning. It was also important to put the software in the hands of the teachers so they had time to "play" with the software and its possible applications to their classrooms. Ready access increased the possibilities of use and experimentation.

The experiences with *Teachers' Software Institute* reinforces principles of teacher inservice as cited in the literature: practice and feedback, collegial opportunities, safe opportunities for risk-taking, incorporation of knowledge bases, and appropriate incentives and rewards. When the teachers who participated in these workshops think about professional development, they should be having good thoughts.

References

Abdal-Haqq, I. 1989. "The Influence of Reform on Inservice Teacher Education." Washington, D.C.: Clearinghouse on Teacher Education. (ERIC Document Reproduction Service No. ED 322 147).

Amazing Writing Machine Version 1.0, Macintosh. Novato, CA: Broderbund Software.

Claris Works Version 4.0, Macintosh. Santa Clara, CA: Claris Corporation.

Dillon-Peterson, B. 1986. "Critical Issues in Staff Development."*Journal of Staff Development*, 7:80-99.

Geoghgan, W. 1994. *Stuck at the Barricades: Can Information Technology Really Enter the Mainstream of Teaching and Learning?* [On-line]. Available: WHG@vnet.ibm.com.

Glickman, C.D., Gordon, S.P., & Ross-Gordon, J.M. 1995. *Supervision of Instruction: A Developmental Approach.* Boston: Allyn and Bacon.

HyperStudio Version 3.0, Macintosh. El Cajon, CA: Roger Wagner Publishing.

Inspiration Version 4.1, Macintosh. Portland, OR: Inspiration Software, Inc.

Joyce, B.R. & Showers, B. 1988. *Student Achievement Through Staff Development.* New York: Longman.

KidPix2 Macintosh, 1994. Novato, CA: Broderbund Software.

MicroGrade. Windows, 1993. San Diego, CA: Chariot Software Group.

Mohlman-Sparks, G. 1986. "The Effectiveness of Alternative Training Activities in Changing Teaching Practices." *American Educational Research Journal,* 23: 217-225.

Netscape, 3.0 Windows. 1995. Mountain View, CA: Netscape Communications Corporation.

Sagor, R. 1995. "Overcoming the One-solution Syndrome." *Educational Leadership,* 52: 24-27.

Sergiovanni, T., & Starratt, R. 1993. *Supervision: A Redefinition.* New York: McGraw-Hill, Inc.

Showers, B., Joyce, B., & Bennett, B. 1987. "Synthesis of Research on Staff Development: A Framework for Future Study and a State-of-the-Art Analysis." *Educational Leadership,* 45: 77-87.

Simpkins, J. 1995. "Evaluation Report: Otterbein College Teachers' Software Institute Summer 1995 Workshops." Unpublished manuscript, Otterbein College.

Sparks, D., & Loucks-Horsley, S. 1989. "Five Models of Staff Development for Teachers." *Journal of Staff Development, 10:* 40.

Student Writing Center Version 1.0N, Macintosh. Fremont, CA: The Learning Company.

Williams, R. 1994. *The Non-Designer's Design Book: Design and Typographic Principles for the Visual Novice.* Berkeley, CA: Peachtree Press.